

ATTORNEY REF. NO. 123097.101

Serial No.: 09/997,420

AMENDMENTSIN THE CLAIMS:

Claims 1 and 10 are amended as follows:

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1. (Amended) A method of identifying a path of travel for a packet in a multi-area domain operated according to a link state routing protocol, comprising the steps of:

receiving topology information from a plurality of individual areas in a domain;

sequentially identifying a plurality of intra-area least cost paths from the topology information; and

sequentially assembling a subset of the plurality of intra-area least cost paths into an end-to-end path.

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10. (Amended) A computer-readable carrier containing instructions thereon that are capable of instructing a computing device to perform the steps of:

receiving topology information from a plurality of individual areas in a multi-area routing domain;

sequentially identifying a plurality of intra-area least cost paths from the stored topology information; and

sequentially assembling a subset of the plurality of intra-area least cost paths into an end-to-end path.

Please add claims 19 through 23:

ATTORNEY REF. NO. 123097.101

Serial No.: 09/997,420

19. (New) A method of identifying a path of travel for a packet in a multi-area domain operated according to a link state routing protocol, comprising the steps of:

- receiving topology information from a plurality of individual areas in a domain;
- computing in a first area a plurality of intra-area least cost paths from the topology information;
- identifying in the first area a subset of intra-area least cost paths that are candidates for extension; and
- concatenating the candidate intra-area least cost paths with their extensions into an extended path between a starting address and towards a destination address.

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20. (New) The method of claim 19 wherein the identifying step comprises:

- identifying at least one exit point from a first area through which the destination address is reachable;
- constructing at least one least cost path segment within the first area between the starting address and at least one of the exit points; and
- selecting at least one of the identified exit points and its associated least cost path segments to result in at least one selected first area least cost segment towards reaching the destination address.

21. (New) The method of claim 20 wherein the identifying step further comprises:

- for at least one of the selected exit points and its associated least cost path segments, identifying a second area within the domain to which the at least one exit point is connected;

ATTORNEY REF. NO. 123097.101

Serial No.: 09/997,420

identifying at least one exit point from the second area through which the destination address is reachable;

constructing at least one least cost path segment within the second area between the at least one exit point of the first area and at least one exit point of the second area; and

selecting at least one of the identified exit points in the second area and its associated least cost segments within the second area to result in at least one selected second area least cost segment;

and wherein the concatenating step comprises connecting one of the selected first area least cost segments and one of the selected second area least cost segments.

22. (New) The method of claim 1 wherein the identifying step comprises:

identifying at least one exit point from a first area through which the destination address is reachable;

constructing at least one least cost path segment within the first area between the starting address and at least one of the exit points; and

selecting at least one of the identified exit points and its associated least cost path segments to result in at least one selected first area least cost segment towards reaching the destination address.

23. (New) The method of claim 22 wherein the identifying step further comprises:

for at least one of the selected exit points and its associated least cost path segments, identifying a second area within the domain to which the at least one exit point is connected;

ATTORNEY REF. NO. 123097.101

Serial No.: 09/997,420

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conc'd

identifying at least one exit point from the second area through which the destination address is reachable;

constructing at least one least cost path segment within the second area between the at least one exit point of the first area and at least one exit point of the second area; and

selecting at least one of the identified exit points in the second area and its associated least cost segments within the second area to result in at least one selected second area least cost segment;

and wherein the assembling step comprises connecting one of the selected first area least cost segments and one of the selected second area least cost segments.
